

A scenic view of a rocky shoreline with a blue canoe and a rainbow in the sky. The foreground shows a rocky bank with a blue canoe and a log. The middle ground is a calm body of water. The background is a clear blue sky with a faint rainbow. The text is overlaid on the image.

Drinking Water Protection Small Water Systems

**Public Health Protection
Interior Health**

Drinking Water Protection Act

- **Act Passed in 2001**
- **Drinking Water Protection Regulation Passed in 2003**
- **Replaces the “Safe Drinking Water Regulation”
made under the Health Act in 1993**

How does the DWP Act/Reg Apply to a Water Supplier?

- Must provide potable water
- Must have a construction permit for construction, installation, alteration or extension
- Must have a valid operating permit
- Must have a certified operator
- Must have an emergency response plan

How does the DWP Act/Reg Apply to a Water Supplier? (con't)

- Must monitor water system
- Must flood proof wells
- Must inform public of
 - a. Results of monitoring
 - b. Emergency response plan
 - c. Water source and system assessments
 - d. If applicable assessment response plans
 - e. Threats to drinking water

Public Notification

- **Water Quality Advisory** Used in situations in which the public health threat posed by the water supply system is modest, and actions can be taken to reduce the risks through means other than requiring a Boil Water Notice or Do Not Use Water Notice.
- **Boil Water Notice** Used in situations in which the public health threat posed by the water supply system is significant and the nature of the threat is one that can be effectively addressed through boiling of the water.
- **Do Not Use Water Notice** Used in situations where a significant public health threat exists in relation to the water supply system, and the threat cannot be adequately addressed through a Water Quality Advisory or Boil Water Notices

Bacteriological Monitoring

- Total Coliforms – bacteria that are found in soils and decaying vegetation.
- E.coli – bacteria found in the digestive tract of warm of blooded animals.

Waterborne Disease Outbreaks

West Trail

Rossland

Matsqui

Barriere

Granisle

Fort Fraser

Kaslo

Victoria

Revelstoke

Cranbrook

Kelowna

Valemount

Princeton

Camp Malibu (CG)

Nakusp

100 Mile House

Kimberley

Chilliwack

Creston

Penticton

Black Mountain

Kamloops

Near Lytton

Kitimat

Fernie

Table 1: Waterborne Disease Outbreaks in British Columbia (1980-2000)

Year	Location	Local Health Authority	Organism	Laboratory Cases	Clinical Cases	Epidemiological Estimate	Suspected Source
1980	Naksup	East Kootenay	Campylobacter	12		800	Wildlife
1981	100 Mile House	Cariboo	Giardia	69			Beaver
1982	Kimberley	East Kootenay	Giardia				Wildlife
1984	Chilliwack	Upper Fraser	Salmonella	82			Broken Watermain
1985	Creston	East Kootenay	Giardia	72			Beaver
1986	Penticton	Okanagan-Similkameen	Giardia	362	497	3,125	Beaver
1986	Penticton	Okanagan-Similkameen	Giardia	109			Beaver
1987	Black Mountain (Kelowna)	Okanagan-Similkameen	Giardia	60			Wildlife/Cattle
1987	Kamloops	Thompson	Campylobacter				Wildlife
1988	Near Lytton	Thompson	Salmonella				Wildlife
1990	Kitimat	Terrace	Giardia	28			Beaver
1990	Creston	East Kootenay	Giardia	130			Wildlife
1990	Fernie	East Kootenay	Giardia	50			Wildlife
1990	West Trail/Rossland	Kootenay Boundary	Giardia	>40			Wildlife
1990	Matsqui	Upper Fraser	Unidentified				
1991	Barriere	Thompson	Giardia	25			Wildlife
1991	Granisle**		Unidentified				
1991	Fort Fraser**	Northern Interior	Unidentified				
1992	Kaslo	East Kootenay	Campylobacter	10			Wildlife
1993	Fernie	East Kootenay	Campylobacter	35			Cattle
1995	Victoria	Capital Health	Toxoplasmosis	110		3,000	Cats/Cougar
1995	Revelstoke	North Okanagan	Giardia, Campylobacter, Yersinia, Cryptosporidium	62; 71; 9; 4			Beaver/Wildlife
1996	Cranbrook	East Kootenay	Cryptosporidium	29	107	2,097	Calves
1996	Kelowna	Okanagan-Similkameen	Cryptosporidium	177		10,000	Human
1996	Valemount	Northern Interior	Giardia	10			Wildlife
1997	Princeton	Okanagan-Similkameen	Unidentified viral	146 ₁			Sewage Break
1998	Chilliwack	Upper Fraser	Cryptosporidium	19 ₁			Cattle
1998	Camp Malibu	Coast Garibaldi	Campylobacter	26 ₁			
2000	Kamloops	Thompson	Cryptosporidium	24 ₂			

1. Source BCCDC Outbreak Co-ordination

2. The Cryptosporidiosis outbreak in Kamloops in 2000 may be the result of human-animal contact and, therefore, may not be not a waterborne outbreak.

Interior Health Drinking Water Goals

- Drinking Water must be free of pathogens
- Drinking water must be free of toxic chemicals
- Water systems meet the 43210 objectives.

Water Quality Objectives

- 4 log inactivation of viruses:
 - 3 log inactivation of Giardia Lamblia and Cryptosporidium
 - 2 forms of Treatment for Surface Water
- Less than 1 NTU of turbidity
- 0 E.coli

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